What is claimed is

1. A method, comprising:

providing a substrate;

providing a plurality of semiconducting and metallic nanotubes in contact with the substrate;

selectively protecting one of the semiconducting nanotubes or metallic nanotubes and leaving the other of the semiconducting nanotubes or metallic nanotubes as non-protected nanotubes; and

dissolving the non-protected nanotubes, to leave only protected nanotubes.

2. The method of claim 1, wherein the substrate is a semiconductive substrate.

3. The method of claim 2, wherein the semiconductive substrate comprises a gate electrode, a source electrode, and a drain electrode.

4. The method of claim 4, wherein the protecting of the semiconducting nanotubes is carried out by depleting the semiconducting nanotubes of carriers.

5. The method of claim 4, wherein the metallic nanotubes are selectively removed by an electrical current.

6. The method of claim 1, wherein the protecting of the metallic nanotubes is by cathodic protection in a strong acid solution.

7. The method of claim 6, wherein the semiconducting nanotubes are selectively removed by the strong acid solution.

8. The method of claim 7, further comprising contacting the semiconducting nanotubes with photon energy to generate electron-hole pairs.

9. A method, comprising:

providing a substrate;

providing a plurality of semiconducting and metallic nanotubes in contact with the substrate;

selectively protecting the metallic nanotubes from acid degradation by cathodic protection; and

contacting the substrate comprising the nanotubes with an acid such that the non-protected nanotubes are

selectively removed.

10. The method of claim 9, wherein the substrate comprises an inter layer dielectric (ILD).

11. The method of claim 9, wherein the semiconducting nanotubes are selectively removed by the strong acid solution.

12. The method of claim 9, further comprising contacting the semiconducting nanotubes with photon energy to generate electron-hole pairs.

13. A method, comprising:

providing a substrate;

providing a plurality of semiconducting and metallic nanotubes in contact with the substrate;

selectively protecting the semiconducting nanotubes from current flow; and

providing an electrical current to the plurality of nanotubes such that non-protected nanotubes are selectively removed.

14. The method of claim 13, wherein the substrate is a

semiconductive substrate.

15. The method of claim 14, wherein the semiconductive substrate comprises a gate electrode a source electrode, and a drain electrode.

16. The method of claim 15, wherein the protecting of the semiconducting nanotubes is by depleting the semiconducting nanotubes of carriers.

17. The method of claim 17, wherein the metallic nanotubes are selectively removed by the electrical current.

18. A method for making a field effect transistor (FET), capacitor, or diode comprising

providing a substrate;

providing a plurality of semiconducting and metallic nanotubes in contact with the substrate;

selectively protecting the semiconducting nanotubes from current flow; and

providing an electrical current to the plurality of nanotubes such that the non-protected nanotubes are selectively removed.

19. The method of claim 19, wherein the substrate is a semiconductive substrate.

20. The method of claim 19, wherein the semiconductive substrate comprises a gate electrode a source electrode, and a drain electrode.

21. The method of claim 18, wherein the protecting of the semiconducting nanotubes is by depleting the semiconducting nanotubes of carriers.

22. The method of claim 18, wherein the metallic nanotubes are selectively removed by the electrical current.

23. A method of forming a device comprising interconnects

providing a substrate;

providing a plurality of semiconducting and metallic nanotubes in contact with the substrate;

selectively protecting the metallic nanotubes from acid degradation by cathodic protection; and

contacting the substrate comprising the nanotubes with an acid such that the non-protected nanotubes are selectively removed.

24. The method of claim 23, wherein the substrate comprises an inter layer dielectric (ILD).

25. The method of claim 23, wherein the semiconducting nanotubes are selectively removed by the strong acid solution.

26. The method of claim 23, further comprising contacting the semiconducting nanotubes with photon energy to generate electron-hole pairs.